

ELECTRON MICROSCOPY IN HUMAN MEDICINE

Edited by Jan Vincents Johannessen

Volume 9

Urogenital
system and
breast

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Jan Vincents Johannessen

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Oslo, Norway

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To
Jacob Churg

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Sven-Olof Bohmann was Associate Professor, Department of Cell Biology, Institute of Anatomy, University of Aarhus, Denmark. He has made numerous contributions on the ultrastructure and function of the kidney under normal and pathological conditions. He has concentrated particularly on the interstitial cells of the renal medulla, renal prostaglandins, and glomerulonephritis. Dr. Bohmann recently moved to the Department of Pathology, Huddinge Hospital, Karolinska Institute in Stockholm.

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His numerous papers, book chapters, and other contributions are standard reference works on kidney disorders. His leading position is reflected in his appointment as Chairman of the WHO International Reference Centre for the Histological Classification of Renal Diseases as well as his appointment as consultant pathologist for the International Collaborative Study of Kidney Diseases in Children.

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Dr. Ferenczy is one of the most dynamic workers in the field of ultrastructural gynecologic pathology which remains one of his main fields of interest together with human reproduction and colposcopy. With Dr. Ralph M. Richart he is coauthor of *Female Reproductive System: Dynamics of Scan and Transmission Electron Microscopy* (Wiley, New York, 1974). He has written numerous papers and book chapters mainly on electron microscopy applied to gynecologic pathology.

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His numerous publications range in subject from autopsy techniques to experimental pathology. His main field of interest is the application of electron microscopy to diagnostic human pathology.

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Dr. Maunsbach is currently president of the Scandinavian Society for Electron Microscopy and secretary general for the European Committee of Societies for Electron Microscopy. He is a member of the editorial board of journals in the fields of nephrology, cell biology, and electron microscopy, and has organized postgraduate courses in electron microscopy and cell biology in several countries.

Steen Olsen is Professor of Pathology at the University of Aarhus and Director of the Institute of Pathology, Municipal Hospital in Aarhus, Denmark. His many publications include standard reference works on renal pathology and he is presently working on the pathology of renal transplantation and glomerulonephritis. Dr. Olsen is an editor of *Acta pathologica microbiologica Scandinavia*.

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Conrad L. Pirani is Professor of Pathology, College of Physicians and Surgeons of Columbia University in New York, and Attending Pathologist at the Presbyterian Hospital, New York. He is a world authority on renal pathology and one of the pioneers in applying the electron microscope to the study of kidney disorders. His publications include numerous standard reference works in this field of pathology.

Victor E. Pollak, Professor of Internal Medicine and Director of the Division of Nephrology at the University of Cincinnati Medical Center, was previously Professor of Medicine at the University of Chicago Pritzker School of Medicine. He is also Consultant Physician for several hospitals in Cincinnati, and a member of numerous professional societies.

Dr. Pollak has held several important committee assignments, and is at present on the editorial board of *Nephron*. His fields of interest include ultrastructural studies of renal disorders, a field where he has contributed standard reference papers.

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Fredrik Skjorten is Associate Professor of Pathology at the University of Oslo and Head of the Laboratory of Electron Microscopy, Department of Pathology, Ullevål University Hospital in Oslo. Following training in general surgery at Rikshospitalet, University Hospital, Oslo, and at Roswell Park Memorial Institute in Buffalo, Dr. Skjorten received his training in pathology at the Department of Pathology, Ullevål University Hospital in Oslo. He studied electron microscopy at the Institute of Pathology, University of Freiburg, Germany and received his Ph.D. degree (on Microvascular Thrombosis) at the University of Oslo in 1970.

Dr. Skjorten was one of the first Norwegian pathologists to apply the electron microscope to the study of human disease. Most of his papers deal with intravascular coagulation, particularly the effect of disseminated intravascular coagulation on the kidneys.

Josef Stejskal is Associate Professor of Pathology and Head of the Department of Pathology in the Faculty of Pediatric Medicine in Prague. After medical school and pathology training in Prague, he worked as a research fellow in the Michael Reese Hospital in Chicago under the guidance of Dr. Pirani. His publications reflect his main interest, nephropathology, and, in particular, ultrastructural studies of pediatric renal disorders.

Myron Tannenbaum, Associate Professor of Clinical Pathology and Director of the Uropathology Research Laboratories, Departments of Pathology and Urology, College of Physicians and Surgeons of Columbia University, New York, is also Associate Attending Surgical Pathologist at Columbia-Presbyterian Medical Center, New York.

He has written more than 130 papers and book chapters, most of which focus on ultrastructural studies of uropathological disorders. He is also editor of a book series on urologic pathology and on the editorial board of several journals.

Ralph M. Wynn was Professor and Head of the Department of Obstetrics and Gynecology, University of Illinois, Chicago and also Affiliate Professor of Anatomy of the Graduate College, University of Illinois at the Medical Center, Chicago, and Obstetrician and Gynecologist in Chief of the University of Illinois Hospital in Chicago. He is now Professor and Head of the Department of Obstetrics and Gynecology of the University of Arkansas College of Medicine, Little Rock, Arkansas.

Dr. Wynn is one of the best known obstetricians and gynecologists in the United States and several of his publications are from his special field of interest: electron microscopy of the placenta and the endometrium.

Preface to series

The electron microscope has made its way from the research laboratories into almost all fields of human medicine. In some disciplines, such as nephrology and virology, it has already become an established and indispensable tool. In others, such as oncology, it is rapidly becoming one.

The rapid expansion of electron microscopy in human medicine represents a challenge to most medical institutions. Their electron microscopy laboratories are often run by people without training in human pathology while most pathologists lack ultrastructural experience.

The present series is the first comprehensive attempt to bridge this gap by letting leading experts present the current state of the art in one all-embracing endeavour. This kind of information has previously been scattered as numerous papers in medical and nonmedical journals or books dealing with limited fields only.

Electron Microscopy in Human Medicine should provide a solid foundation for those who are in the process of building up experience in ultrastructural pathology, and also broaden the horizon of those with experience in one narrow area of human electron microscopy. The series, furthermore, should present the clinicians with a dynamic ultrastructural view of the diseases they deal with and help them to decide when to save material for electron microscopical investigation.

Without the enthusiastic and idealistic support of all the authors of this series and the excellent cooperation provided by the publishers and my hospital, the editing of this venture would have been at best troublesome and at worst impossible.

Oslo, 1977.

Jan Vincents Johannessen

Preface

The kidney was one of the first human organs to attract the attention of electron microscopists. This was due to several factors, one being the introduction of the percutaneous needle biopsy, allowing the investigator to examine well-fixed material, and another that several of the alterations taking place in human glomerular disorders were scarcely visible with the resolving power of the light microscope, or not visible at all.

The section on the kidney was organized by Dr. Sakaguchi of Tokyo and Dr. Churg of New York, working in close cooperation, and in collaboration with their selected international group of coworkers.

Dr. Myron Tannenbaum was the obvious choice to deal with the ultrastructural pathology of renal tumors, lower urinary tract, and male genitalia, and, similarly, Dr Henning Pedersen with regard to the spermatozoa, Dr. Alex Ferenczy, and Professors Cecilia Fenoglio and Ralph Wynn with respect to gynecological and obstetric pathology, and Professor Luciano Ozzello with regard to the breast.

The outstanding selection of clinicians and pathologists in this volume demonstrates that the electron microscope is an important tool shared by laboratory doctors and clinicians.

Oslo, 1979.

Jan Vincents Johannessen

Acknowledgements to Part One

Chapter 2

Figure 2.11 courtesy of Professor O. Kobayashi, Niigata University of Medicine, Niigata, Japan.

Chapter 8

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Acknowledgements to Part Three

Chapter 17

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Acknowledgements to Part Four

Chapter 18

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